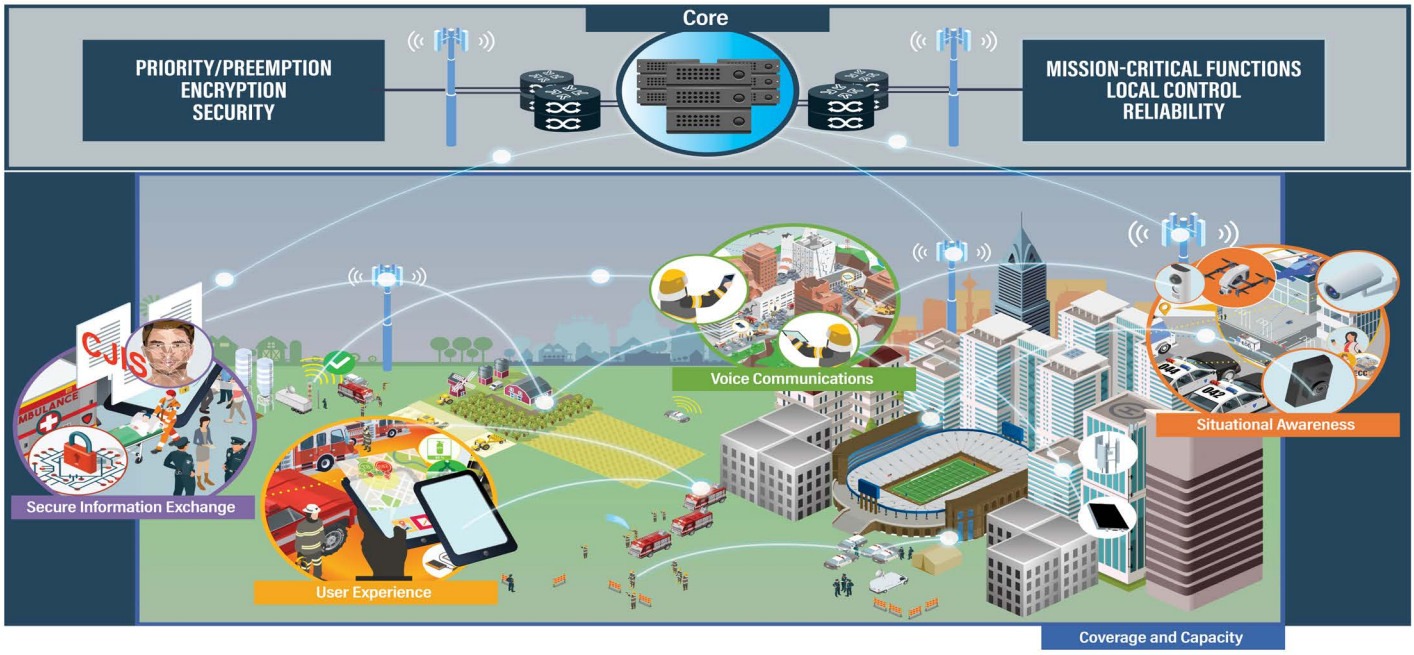
FirstNet Authority Roadmap
FIRSTNET CORE

Domain Overview

The FirstNet core is the only nationwide long term evolution (LTE) enhanced packet core infrastructure built specifically for our nation's first responder community. It serves as the brain and nervous system of the nationwide network, separates public safety traffic from commercial traffic, and supports FirstNet functions, including quality of service, priority, and preemption (QPP). The FirstNet core is the foundation for the delivery of advanced public safety features requested by first responders that are unique to the FirstNet service offering, including end-to-end encryption, continuous security monitoring, superior reliability and availability, local control, and mission critical functions (e.g., mission-critical push-to-talk [MCPTT]).

The Vision

The FirstNet Authority envisions the network core will be technologically current and possess the necessary features and enablers to support mission-critical services and applications at appropriate levels of availability, performance, and security to meet the public safety community's expectations.



Roadmap Priorities for the FirstNet Core

The FirstNet Authority assessed multiple factors to determine its Roadmap Priorities for the FirstNet Core domain.

These priorities will be developed into a series of initiatives that will direct the FirstNet Authority's efforts and drive its investments.

- **Explore distributing the core and cloud based operations to additional locations with content closer to users.**
- **Explore evolution of the core to address foundational needs for next generation technologies (e.g., 5G).**

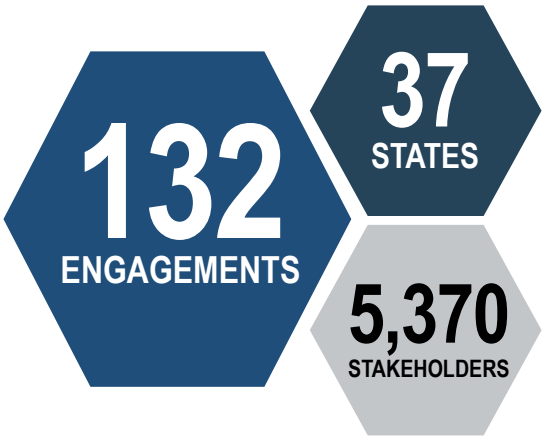
FIRSTNET CORE

Key Technology Areas that Comprise the FirstNet Core

- **Evolved Packet Core:** Network-based voice and data switching for the FirstNet LTE network, including session and mobility management, user authentication, and QPP.
- **Internet Protocol Multimedia Subsystem Core:** The framework for providing resilient telephony and other session initiation protocol-based services on the 3GPP network.
- **Services Platform & Enablers:** Standards-based functionality supports services, such as mission-critical (i.e., voice, data, and video), proximity services (ProSe), evolved multimedia broadcast multicast services, presence, location services, and other standard network services in a 3GPP network.
- **App Servers:** High availability computing solutions for the FirstNet network.

Public Safety's Take on the FirstNet Core

- Public safety generally identified availability, reliability, resiliency, and hardening as foundational needs to meet public safety's operational requirements (e.g., distributed architecture).
- The public safety community expects parity with commercial carriers (e.g., international roaming, wearables, phone number synchronization) and that the FirstNet core will remain current with the continued evolution of features, functions, and capabilities as specified in standards and as made available by technology providers.
- Public safety is interested in a core that supports mission-critical (MC) services (i.e., MCPTT, MCData, and MCVideo), strong cybersecurity, and priority services to enhance public safety broadband communications.



Public safety engagements that addressed Core (April 1-June 30, 2019)

Key Takeaways from the FirstNet Authority's Analysis of Learnings from Stakeholders

- The core is an enabler to each of the Roadmap domains, and a continually evolving core will provide the means necessary to fulfill public safety's operational requirements both today and in the future.
- The FirstNet Authority needs to ensure that the core is equipped to enable advanced technological capabilities that support ongoing network operation and longevity.
- The FirstNet Authority is uniquely positioned to continue advocating for relevant standards that emphasize public safety's evolving operational and technical needs.